AMERICAN JOURNAL OF OPTOMETRY

Vol. 3 NOVEMBER 1926 No. 11

CONTENTS

Original Papers

Suppression and Suspension. R. M. Peckham 332
Cases and Comments. J. W. Parker 336
Esophoria vs. Hypermetropia. A. S. Anderson 338
Notes on Suspenopsia or Visual Suspension. F. McFadden 240

Reported Cases. W. S. Farmer

Frame Fitting with Dental Plaster Casts 341
Six Cases of Hereditary Cataract in One Family 341
Glaucoma Relief Through Glasses and Medicine, Combined 342
Subnormal Accommodation Due to Syphilis 342

Optometric Notes

On Anisometropia—in 1869. E. K. Eliason 343
Making a Red-free Ophthalmoscope Inexpensively. H. P. Blaine .. 344
A Test for the Dominant Eye and a Phoria Check Test. J. Fred Andreae 345

Abstract Department

The Influence of Colored Light on the Recognition of Printed Letters. A. Korff-Peterson 346
Studies in Ocular Fatigue. Burns, Hardy and Pierce 346

Editorials

The Eyesight Conservation Council 347
Optometry's Problems Must Be Solved Now 348
Optometric Education 348

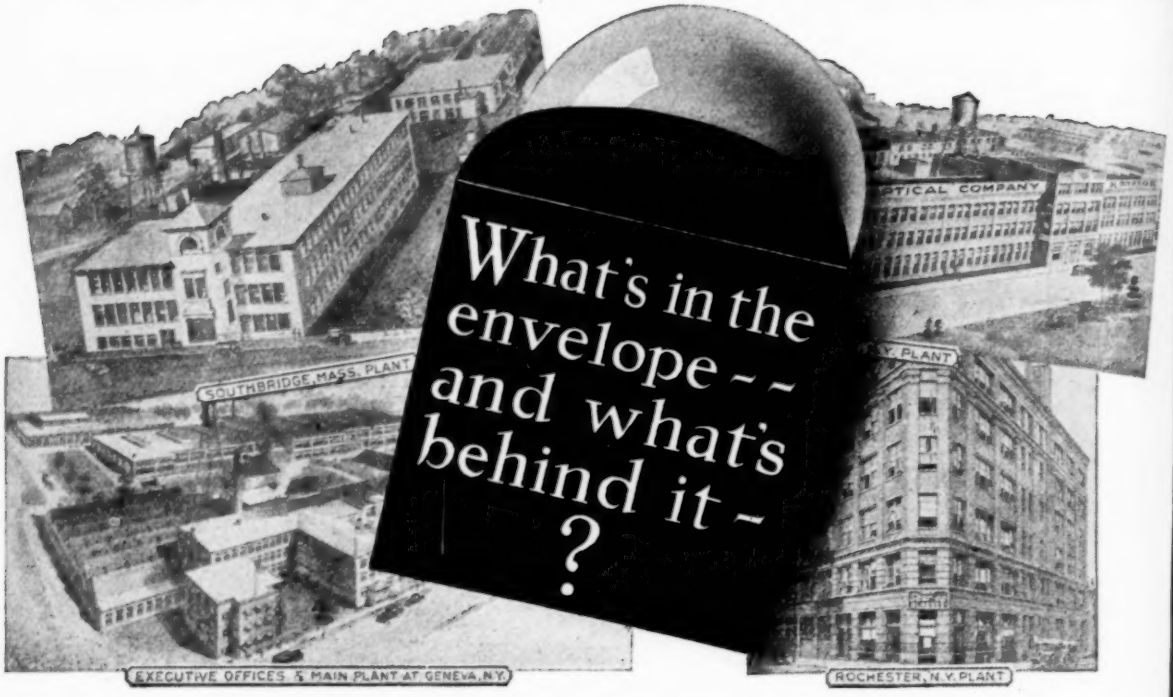
Reports and Announcements of Societies

American Optometric Association 349
Southern Minnesota Association 349
Minnesota Association 349
North Dakota Association 349

Special Report

Suggestions as How to Combat the Glazzed Goods and Mail Order Evils. J. Fred Andreae 350

SHUR-ON LENSES


What's in the envelope -- and what's behind it - ?
SOUTHBRIDGE, MASS. PLANT
EXECUTIVE OFFICES & MAIN PLANT AT GENEVA, N.Y.
ROCHESTER, N.Y. PLANT

Apparently just a simple piece of glass -- but behind it are the resources of these four factories

FACTORIES—buildings with great investments in machinery, material and men grow only in the field of public acceptance. This field is not fertile and produces only when assiduously cultivated and nourished with value and service.

The four factories of the Shur-on Standard Optical Company, Inc. evidence the dependability and quality many have found in its products.

It is this dependability and quality which have developed the confidence enjoyed by Shur-on lenses and built for their production some of the world's great lens plants.

Specify Shur-on Lenses.

SHUR-ON STANDARD OPTICAL CO., INC.
GEVEVA, NEW YORK, U. S. A.

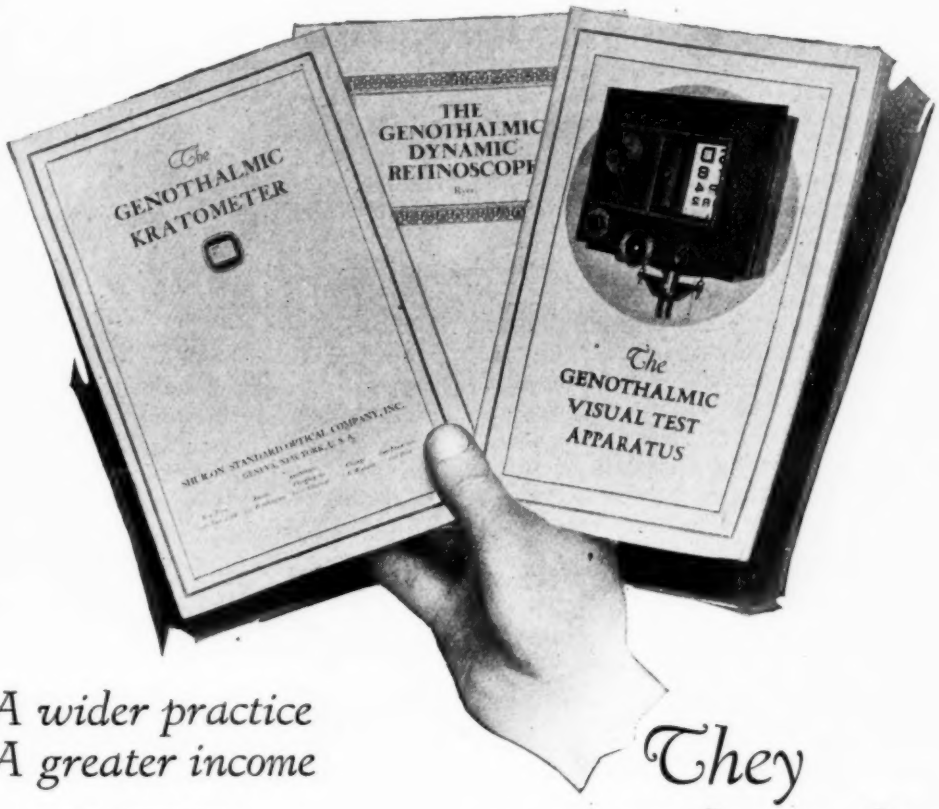
NEW YORK, 1112 PERSHING SQUARE BLDG.
PHILADELPHIA, 1211 CHESTNUT STREET
CHICAGO, 5 SOUTH WABASH AVE.
SAN FRANCISCO, 278 POST STREET
BOSTON, 333 WASHINGTON ST.

Factories at GENEVA, N. Y., MOUNT VERNON, N. Y., ROCHESTER, N. Y., SOUTHBRIDGE, MASS.

Optical Shur-on Products
Quality beyond question for more than fifty years

MEMBERS: Co-operate With Your Advertisers

There are IDEAS *in these books*



A wider practice
A greater income

PRESTIGE
PRIDE
SATISFACTION

THESE are the things many men have secured through Genothalmic Instrumentation. These instruments have opened the way to professional achievement and the rich rewards which follow prestige and authority.

YOU HAVE
THE SAME OPPORTUNITY
SEND FOR
THESE BOOKS TODAY

They are worth reading

SEND
FOR YOUR
COPIES
TODAY

SHUR-ON STANDARD OPT. CO., Inc.
GENEVA, N. Y.

Gentlemen:
Please send me by return mail, free of charge the books I have checked below:

- ☐ VISUAL TEST APPARATUS
- ☐ KRATOMETER
- ☐ DYNAMIC RETINOSCOPE

Name_____

Address_____

_____

Say: I saw it in the American Journal of Optometry

AMERICAN JOURNAL OF OPTOMETRY

Vol. 3 NOVEMBER 1926 No. 11

SUPPRESSION AND SUSPENSION

R. M. Peckham,

Waterbury, Conn.

In the somewhat archaic text books that make up the bulk of the literature of refraction, the temporary cessation of visual functioning by one eye is exclusively mentioned as "suppression." The idea mainly brought out is that because of amblyopia or stress in maintaining binocular single vision one of the images is deliberately suppressed in the interests of comfort. Not until quite recently, and then in books dealing with general physiology rather than in texts devoted to the specialities of refraction or ophthalmology, is it recognized that there is a type of monocular cessation not necessarily caused by the desire of the mind to be rid of discomfort, but a suspension of nervous activity not due to refractive error nor to binocular stress, nor is the mind at all a participant in such discontinuance of the visual duties. There is little literature on the subject, but the work of Hartridge, the younger, and of Weck, has called the attention of various European students to this anomaly. Then we have the work of the American Optometrist, McFadden, and the apt term he coined, "suspenopsia."

Now, unfortunately, many refractionists and writers on refractive topics, being attracted by the descriptiveness of the new word are using suspenopsia and suppression synonymously and interchangeably. Nothing could be farther from the truth. In no manner do the two resemble each other save in the symptom, which is the cessation of vision by one eye, or, to be more exact, by the nervous visual elements of one eye and its related fields in the cortex of the brain.

Suppression

Suppression is the exercise of a nervous function. Suspension is the failure of a nervous function to continue to exercise its proper function, which is the recognition and interpretation of an image refracted on the retina. The first is a sub-conscious willed act. The second occurs with no such willed enforcement, often in spite of volitional intent to the contrary. Suppression is nature's way of avoiding the confusion of two images of unequal size or of alleviating distress when the effort of fusion is too great to be borne. Suspension is merely the cessation of nervous receptivity and conduction of nervous sensory impulses.

When one retina is partially amblyopic, or the refractive error is such that the two images are of different size on the two retinae, or one eye is highly astigmatic so that its image is badly disturbed, fusion is impossible. Then the mind, in certain types of personality, will suppress that image which it knows from experience is less like the object of regard. Or, in esophoria, if the stress of readjustment is too great, the way to avoid the stress is the suppression of one image. In this event, suppression may be of either eye and it may be alternating.

Suspension

In explaining suspension, we have two factors to consider, one is nervous conduction, the other is biological. Let us first consider the latter.

We must go back to the earliest types of vertebrates, even back to the stage preceding the appearance of semi-decussation of retinal fibers. The earliest vertebrates are the higher types of crustaceans, as the cray-fish, and the fish. These have the eyes at the sides of the head with a long snout between them. In a few, as some types of pickerel, the eyes are set somewhat forward and high up, so that it is possible they might enjoy to some extent the advantage of looking forward, and I am inclined to think, from my own observations, still more from those of my son who has taken no pains to learn something of their visual habits, that a few species of fish do use both eyes simultaneously, at least a part of the time. It would take too long to recount these observations here, nor is it essential to the

present argument. But, we have definitely found that those fish whose eyes are set low do use the eyes in alternation.

Without pausing for discussion of intervening species, let us take the next great step in evolutionary progress, the bird family. Here it requires no very keen observer to note that vision is mainly alternating and monocular. Just watch any bird whose attention you have attracted, see him eye you first with one optic then with the other. As conductivity and receptivity of one set of retinal fibers wanes the other waxes, he turns his head to bring that other eye in position to watch your movements. The other day, a cat-bird, sitting so that his left side and back were toward me, when his left eye, with which he first saw me, began to suspend, turned his head backward over his right shoulder to bring his right eye to bear on me.

This is "retinal rivalry" in its most pronounced stage. And as we humans are nothing but the product of untold ages of phyletic development, and in every one of us there are some "vestigial traces" of our ascent, now and then we encounter a case of complete monocular intermittency, similar to that which characterizes the lower vertebrates.

As ascending species grew more and more dependent on vision for information as to danger and food, semi-decussation of retinal fibers appeared, together with a movement of the eyes forward, with gradual recession of the snout. Traces of semi-decussation of retinal fibers are found in some of the higher types of birds. Then appears binocular vision (not binocular *single* vision, however), to replace intermittent monocular vision. Still retinal rivalry persists, but is confined to retinal areas, not embracing the entire retina save in pronounced instances, as we have already mentioned. And this serves a definite purpose.

Now we must spend a few minutes on nervous conduction. What we call "a nerve" is in reality a bundle of nerve fibers, each with its definite duty. A sensory nerve is a bundle of fibers connecting the special sense organs of touch, taste, scent, hearing, vision, equilibrium, with the central nervous system. Such a nerve may contain half a score, half a thousand or several hundred thousand fibers. Each of these fibers branches out at both ends. The branches at the outer terminal are called "dendrites" and twist about several of the special sense cells. Usually each special sense cell receives dendrites from several fibers. The branches on the inner end of the fiber are called its "central terminal branches," and these enter the gray matter of cord and brain stem, where they discharge the sensation received through their dendrites.

The nerve fiber, to be in condition to carry an impulse, must be in a "state of irritability." But in the conduction of this impulse, its chemical composition is so altered that it is no longer in this state of irritability and must "rest" while it renews its former and normal state. All the fibers of a nerve bundle are not always in a state of irritability. Some of them "rest" while others conduct the sensations. Then the rested fibers resume their task while the exhausted fibers are being renewed.

If the reader will take the trouble to make for himself drawings like the accompanying figures, he can quickly demonstrate to himself the manner in which different areas lose and renew their irritability and conductivity. Draw these designs on cards four by seven inches and use them in a stereoscope. The diagonal lines overlap to form a lattice work.

You will see portions of lines seen by the right eye disappear suddenly and be replaced by the lines seen by the left eye. These in turn disappear and part of the original right eye lines come back, but never exactly the same area of lines. There is a constant change of lines and squares as various areas are served by conducting or resting fibers. And in these areas the two retinae alternate, are "rivals." Occasionally a patch will appear with no lines, merely a blank white space. Then corresponding fibers of the two retinae have suspended. Occasionally, all the right-eye's lines or all the left-eye's lines disappear for a fraction of a second. With some people the disappearance of one eye's lines will last for several seconds. Then you have an example of complete suspension, or involuntary intermittency of vision.

If you will but take the trouble to draw some sketches in two colors, one

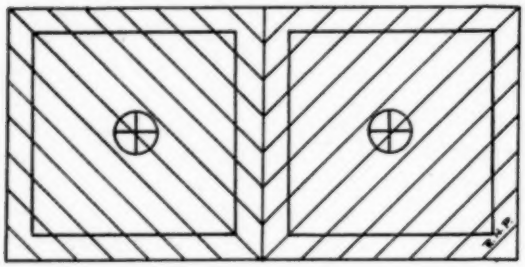


Fig. 1

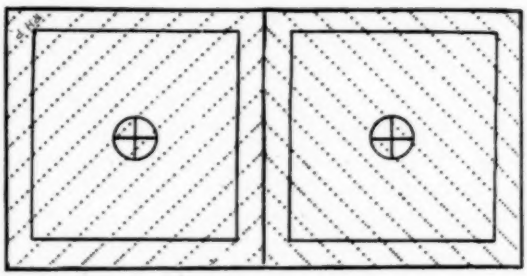


Fig. 2

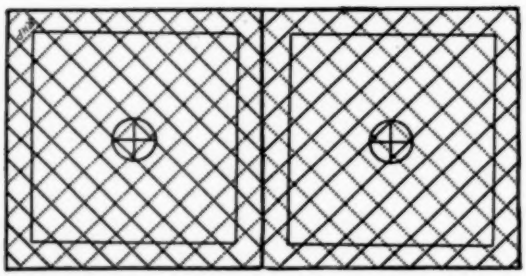


Fig. 3

Sketches for studying retinal rivalry.
By Robert H. Peckham.

side of one color, the other side of a contrasting color, you will get even more remarkable effects of intermittency and retinal rivalry.

This rivalry of retinal areas serves a distinct and decidedly useful appearance. For without it, when nervous conductivity is exhausted we should lose vision entirely. Only when the loss of conductivity extends to all the fibers from the retina do we reach the point of monocular suspension.

If you make some drawings, like the third of these sketches, in which there is considerable detail common to both eyes, you will note that there is less noticeable suspension. That is because where the detail is common to both eyes one retina is active and irritable in the field in which the other retina is inactive and of reduced irritability. So, in looking at scenery or in reading a book we are not unconscious of these lapses, but the scenery or the page of type are free from unseen spots.

A Full explanation of this phenomena may not be made until we know far more about the source and nature of nervous impulses than we do today. Practically, that is a sealed book. Just as we actually know nothing as to the cause of electrical energy, though there are many good guesses in circulation, we know absolutely nothing as to whence neuricity comes nor why. But we need not know this in order to be able to successfully use it, even as we use electricity while ignorant of its intimate nature.

So why or how one retina is completely suspended, nor by what process the mind may completely suppress the image refracted on one retina, we do not know. Why there should be a total suspension of one retina on some occasions by some people we do not know, we can only guess.

It is possible that such total exhaustion of irritability and conductivity might result from the low state of energy resulting from sickness. But in healthy people it can be regarded as but an extreme case of "retinal rivalry," a survival of the visual habits of our primordial ancestors. I suppose we are justified in saying that the visual centers for that eye in the cortex lose attention and transfer their duty to the visual centers of the other hemisphere.

Treatment of suppression and suspension is somewhat similar in method, but it is different in aim, must vary considerably with different individualities.

In suppression, we must correct the refractive error. If the two images

formed on the two retinae are different in size, we must so alter our lenses that the sizes are pretty nearly the same. We must remove the cause of the stress. Sometimes refractive correction alone suffices. In amblyopia, we can hasten the development of vision by special exercises, which will do in a few weeks what mere correction will require months to accomplish. Again, refractive correction might straighten matters out in time, but we can with special training develop nervous pathways by which the central system can care for the structural defect without stress. For such training, stereoscopic sketches are best.

But generally in the correction of the habit of suspension the refractive correction is a secondary matter. Here we have to develop the habit of unremittent attention from the visual centers of both hemispheres of the brain. The only possible means is by the use of some form of adjustable stereoscope with adjustable prisms or the use of cards in rapid succession before a non-adjustable stereoscope, such cards having the right and left objects at various distances apart. In either method, the object is to jump the picture off the macula, interest the fusion function of the extra-macular fibers, compel the mental production of a single picture made up of the two dissimilar pictures on the card. The latter method is slow so that progress is not rapid.

In treating suppression, we must train either the function of convergence to work without mental attention or stress with base out prism exercises, or we must develop convergence relaxation with base in exercises, or with vertical prism exercises train the vertical ductions. Our purpose is the development of the ability to care for structural defect without stress.

In treating suspension, on the contrary, unless there is a marked convergence insufficiency, we use our prisms to keep the image jumping about in all directions and so attract and maintain attention. For it is the moving object, not the stationary object, that attracts. We neither work for better convergence nor for increased ductions. These have nothing to do with the matter. The problem is to teach attention.

Now and then we may meet a person with complete intermittency, that is, never do their two retinae and their inner connections take up their functions of vision at the same time. I do not know how simultaneous binocular vision could be established in such cases.

We can find some suspension in fully half the cases we refract if we keep at the case long enough. It is possible, during a prolonged examination, to so exhaust the client that suspensions will appear that are abnormal to that individual. Personally, I can see no reason for taking up treatments when the intermittencies are but fleeting. But where they are found to occur frequently and are of several seconds' duration, then they should be taken in hand and the habit eradicated. For the habit might grow worse, or the suspension might occur at an inopportune time. A long continued suspension will make the individual lose the stereoscopic sense of depth and distance. One can prove to one's self that the sense of depth is not lost immediately by a suspension, for with one eye occluded we still by memory retain the perspective sense for quite a period of time. I have noted that with one eye covered for two or three minutes that a street scene slowly "flattens," but it does not occur immediately.

In persons subject to hysteria, one eye is very apt to suspend during an acute attack of fear or nervousness. I noted this in particular in a young man of about 25 years. I should hate to be within striking distance of his car when in such a moment of nervousness one of his eyes suspends.

The dominant, or fixing, eye is as apt to be the suspending eye as is the non-dominant eye. So the habit of suspension has nothing to do with dominancy. When the dominant eye suspends, then the sense of direction is changed. I know one woman driver who suspends the fixing eye at irregular intervals, and to watch the erratic progress of her car up the street is enough to stop one's heart beat.

Quite frequently we meet a case of intermittent exotropia, either right or left. In some people this occasional out-turning is very noticeable, in others it requires close observation to see it. In some, it is very frequent, in others only occasional. Never are

these people conscious of this suspension and the consequent exotropia. The exotropia may be of several minutes' duration or may last but a few seconds. When the flow of nervous impulses recurs, the eye resumes its normal position and associates in binocularity with its mate.

I find that it is not so very difficult to correct this habit with stereoscopic exercises, but of course it takes some time, perhaps a year, perhaps two years. So far, we have succeeded in overcoming the habit in perhaps seven or eight cases. None have proved intractable.

A person may have no refractive error, show "perfect orthophoria," have convergence reserve enough and to spare, but have the habit of suspension. It is the eradication of this bad habit that is our purpose. In suspension cases, do not try to build up adduction or abduction. Simply devote yourself to training that mind to keep both halves of the brain unremittingly on the job.

Therefore, it is essential that the refractionist be able to differentiate betwen suppression and suspension. For to treat a case of true suspension as we would treat a case of convergence insufficiency might lead to bad consequences. With base out exercises in the wrong place we could create myopia, with base in exercises at the wrong time we could involve ourselves in a temporary convergence insufficiency. And to treat a case of suppression as a case of suspension would get us nowhere at all.

CASES AND COMMENTS

J. W. Parker, Opt. D.
Kansas City, Mo.

There was a time when I considered myself something of an authority on muscular anomalies but that day is past. If there ever was any excuse for it, it lay in the fact—not that I knew very much—but that the great majority knew so little. Today, I am glad to see, we are beginning to hear from a number of optometrists who have taken the time and pains to go into this phase of our work in a thorough manner. Surely much good will come from their efforts. In citing the following cases my main object is to refute the teachings of one or two quite prominent and generally efficient optometrists who, in some manner, have become apparently obsessed with the idea that all muscular troubles are due to either wrong refractive practise or to wrong frame fitting. The most of us, I am certain, realize the necessity for correct P. D.'s, and also the repressing or stimulating effects on the convergence which might come from strength of lenses. The main point I wish to make is, that muscular imbalance can and does exist in spite of correct lenses and correct frame measurements.

Case A—Young lady, stenographer and bookkeeper. Eyes examined first in January of this year. Binocular fogging brought out the acceptance of a plus 1.25 sphere combined with plus .25 cylinder, axis 90 O. U. As this was her first correction the spheres were cut to .75 with cylinders as noted. All symptoms such as headache, tired feeling in the eyes, etc., disappeared with the exception of a slight photophobia which was accounted for by the patient having extremely large pupils which reacted fairly well to strong light but would not contract to normal size.

The reaction appeared to be about normal provided the size of the pupil had been normal when exposed to a modified light. The above lenses continued to give satisfaction until in July. At that time she began to experience some trouble, especially after prolonged use of the eyes at short range. Suspecting some latent trouble which could not be developed at the time, the spheres were increased to 1.25 D. and relief was again experienced with the exception of a slight lowering of the distant vision. At the end of a month the distant vision had not improved and a slight photophobia was again manifest. The lenses were then changed to plus one spheres

with cylindrical correction as before. I might state here that at no time has there been anything to indicate a possibility of improving on the cylinders. These lenses were ground in "A" shade Crookes and seemed extremely comfortable—for a while. About the 1st of September a heavy day's work brought on a very distressing feeling around the eyes and this was reflected through the nervous system in general.

In none of these examinations had I made any test for muscular trouble except at the reading point and this test indicated nothing wrong. September 7th I made a very careful duction test and found a very weak adduction. As the young lady happens to be located in the same building with me it was convenient to give the customary exercises once a day. After the first exercise I was astonished to find the reaction to light much greater than before. In fact the size of the pupils came practically to normal and in a normal light they failed to dilate as much as before. Exercises were continued until the ductions were fully normal. The average size of pupils, while considerably diminished, is still above normal for the age. This is no doubt due in part to a hypersensitive sympathetic nervous system and possibly aggravated by a former spinal injury. The young lady reports that her eyes are more comfortable than ever before, especially in two respects: Sensitiveness to light and a former sleepy feeling has disappeared.

Two points in this case are worth noting: The muscular trouble persisted in spite of full correction of refractive errors and a perfect frame adjustment: The influence of a weak adduction on the pupils which was a new one, to me at least.

Case B—Man near the presbyopic age. More or less fatigue. In this case the maddox tests showed about 3Δ exophoria. Adduction low but responded rapidly to exercises which, although bringing the adduction to normal failed to restore the balance as per maddox test. The exercises also brought a temporary relief but later the old symptoms returned. Prisms sufficient to restore an orthophoric condition gave lasting relief. This case is cited because, in previous writings, I have contended that a slight imbalance as shown by the maddox test, or similar ones, was of slight consequence provided the adduction and abductive powers were sufficiently developed. In this case, however, it seems the patient acquired the trick of forcing a strong adductive action while taking the exercises but fell down on the sustaining power. In this case, as in the other, I am certain the full correction had been prescribed because in each case the spherical power had to be reduced .25 in order to get clear distance vision.

Case C—Man of 42. Refractive error, myopic astigmatism of low degree, with the rule, slightly more in left eye than in right. Had been to an oculist who, through a mere chance, the details of which I will not take space to describe, found a total suppression of vision in left eye at the reading point but active at distance. Diagnosed it as a case of partial or threatened atrophy of the optic nerve and prescribed strychnine. After two hours of experiments and much perspiration, it came to me like a flash, that convergence was one function brought into use at the reading point which was passive at distance. A few more experiments convinced me that I was on the right track and also that the fusion sense had been lost. Explained the nature of the trouble to the patient and assured him it could be corrected with his co-operation, which was promised. It so happened, however, his wife was much dissatisfied with the idea of an optometrist being able to handle a case of that kind and insisted on his seeing some ophthalmologist. This he did, and the oculist "suspected" a syphilitic condition. A Wassermann test revealed a "trace." Treatment failed to do any good. Changed oculist and the next one insisted on a blood test by a different expert who failed to find even a syphilitic trace. After that, the oculist admitted himself stumped and after a careful ophthalmoscopic examination declared that whatever the trouble was, it was not in the eyes themselves. At this point the patient asserted his domestic independence and returned to try my treatment. It was hard work to even get a start on giving the exercises as a rather weak prism, base out, would result in visual suppression. At the end of two months the adduction had been developed and through stereoscopic exercises the fusion sense restored. This case was a freak, so to

speak, in that the brain learned the trick of suspending the vision in the left eye in order to do away with the necessity for convergence which, when used, produced some unpleasant symptoms.

At one time, years ago, I was about ready to accept the McCormick theory that all muscular troubles were the result of poor refractive practice. Now, however, I am fully convinced that such is not the case—and further—that the subject is so deep and presents so many apparent contradictions and intricacies that it will take years of patient research to master it.

ESOPHORIA vs. HYPERMETROPIA

A. S. Anderson, Opt. D.
Williston, N. Dak.

Of late years much credence is being given the theory that many hyperopes derive their relief in wearing convex lenses, not so much from the accommodative assistance given, as from the suppression of accommodation which in turn restrains convergence. When the two conditions of esophoria and hypermetropia co-exist, as they usually do, is it not just as reasonable to assume that the esophoria is the fundamental cause of the eye strain rather than the hypermetropia, since almost all hyperopes who complain of eyestrain are esophores to a greater or less extent? What optometrist has not seen the uncorrected hyperope of about 35 years of age whose vision is 20/15 or better and whose refractive error is plus 1.50, but who does not complain of headaches his only difficulty being that continued near work fatigues his eyes? Perhaps the explanation is that this type of person is usually orthophoric or very nearly so. In direct contrast we have the hyperope of half a diopter with an esophoria of several degrees who is in constant misery without his glasses while a lens is being replaced.

If, as has been intimated, the esophoria is fundamental you ask what is the difference so long as the correction of the hypermetropia reduces the muscular imbalance to an extent that comfortable vision is established? There is no difference to the optometrist who has in mind the establishment of binocular balance (comfortable vision) with his prescriptions rather than the purely mechanical effect of correcting errors of refraction. Lenses remain as the most essential part of the correction no matter which be fundamental, esophoria or hypermetropia. Nevertheless, the new hypothesis accepting the esophoria as fundamental is attractive inasmuch as it admits of a more reasonable explanation of the why and wherefore of eyestrain and explains why remedial measures other than lenses sometimes prove effective after it has been found that the mechanical correction afforded by the glasses give only partial relief.

Every optometrist has prescribed glasses for low errors of hypermetropia and astigmia and has found in many cases that the patients discarded the glasses for a period of many years after wearing them but a short time. Are we to assume that the lenses so strengthened the eyes that they were no longer needed? Is it rational to presume that a weak cylinder creating a spherical refracting surface on a misshapen cornea caused that cornea to correct a deficiency that was already being supplied artificially? Is it reasonable to infer that a weak convex lens could permanently increase the axial diameter of a hyperopic eye to a point where vision would be emmetropic? No, those who have likened a lens unto a crutch cannot be gainsaid, there must be some other explanation.

If esophoria were the causative factor in the eyestrain then a more acceptable theory could be offered. Perhaps the patient's general physical condition reached such an improved state that the resultant increase of nervous energy supplied the deficiency in muscle tonous, reduced the esophoria, and permitted the crystalline lens to accommodate for slight physiological imperfections without fatigue.

In the last few years the evolution of instruments that seek to increase the strength of the ocular muscles is

evidence that we are looking elsewhere than to the correction of refractive errors for the fullest measure of relief from eyestrain that is sought. Some splendid results have been achieved with kratometers, rotary prisms, and even loose prisms. But it has been found in many other cases, notably with esophores, that the muscles do not always respond to such treatment.

Perhaps the optometrist, together with many other specialists in the correction of physical defects, is too prone to treat the eye and its appendages as separate and independent of the body. We must not lose sight of the fact that the eye is a wonderfully sensitive physiological organ and highly amenable to all influences for good or evil that affect the body proper.

To go back to the muscle exercise treatment for esophoria. Perhaps the muscles would not respond to treatment because there was a deficiency in the supply of nervous energy that reached the muscle, this force being spent in some other part of the body. Or perhaps an impure blood stream prevented development for no amount of exercise will strengthen a muscle unless there is a clean blood stream to carry tissue requisite for cell building to the muscle being exercised.

The chiropractors and osteopaths will probably agree that the esophoria (like all "eye trouble") is due to the nervous impulse being blocked and may further insist that a "subluxated" third cervical vertebra is the primary cause. Although manipulation, as practiced by both chiropractors and osteopaths, may be valuable in the infinitesmally small number of cases in which the eye trouble is really caused by vertebrae misplaced far enough (if that can be possible) to cause actual nerve impingement, it cannot be recommended for general application.

That esophoria, which does not yield to local treatment such as lenses and prisms, is due to lack of nerve force reaching the external recti muscles must be conceded. It is but a step further to presume that this nerve depletion on the part of the external recti is due to the same general causes as nerve depletion elsewhere in the body. The nerve depletion may be due to the existence of a chronic disease or more frequently to a weak nervous system that is usually associated with low vitality. In the former case, with other symptoms of disease well marked, the patient would not come under the observation of the optometrist, but in the latter case in which the outstanding symptom is eyestrain that patient is likely to go from one refractionist to another seeking relief. Every optometrist is familiar with the esophore who cannot get "glasses that are right," and who fails to respond to muscle exercise treatment. Too frequently we set these patients down as hypochondriacs and chronic "kickers" whom no optometrist could please, whereas, more often than not the complaint is justified and the fault is our own in failing to make the correct diagnosis.

To what sort of a practitioner the stubborn esophore should be sent is a problem that engrosses the minds of many optometrists. The writer's views on this question, and also a few case reports from his own experience in the treatment of esophoria, will appear in another article "Esophoria and Auto-Intoxication" in an early issue.

NOTES ON SUSPENOPSIA OR VISUAL SUSPENSION

F. McFadden, D. O. S.
Athol, Mass.

With the hope that more can be added to our sum of knowledge on this subject the Staff of this Journal is very desirous to hear from its readers regarding experiences with patients affected with the condition known as suspenopsia. It is apparent that many of our patients unknowingly experience this lapse of vision, but care must be taken not to confuse this group with those who for some reason or other are merely suppressing the visual center for one or the other eye. Dr. F. McFadden of Athol, Mass., will handle this work for the Journal and letters and manuscripts on this subject should be sent to him direct. They will be published, with or without the writer's name as directed.

Patient whose refractive errors were not large, and had been carefully corrected, still complained of uncomfortable vision. There seemed little, if any imbalance, as ordinarily construed. From certain factors in the complaint it would appear that probably suspenopsia should be tested for, and if found it would be advisable to undertake its correction.

The correspondent changed the cylinder to one of .25 greater power, believing also that a slight decentration of the lenses had caused the periodic suspensions. In the correspondence is also some allusion to possible retinal inflamation, to degenerations, spinal and brain lesions, as well as to sex habits.

Some go on the theory that we should do as well as we can and then let well enough alone. Other men feel satisfied if they "hit 90% of the cases," letting the other 10% go elsewhere. If we can but save a large part of this 10% we shall require less publicity for new consultants.

The consultant showed an undoubted suspenopsia of the alternating type, and at no time does she appear to have been seeing with both eyes simultaneously.

It is of course apparent that we have no adequate description of the extent of suspenopsia, so that it is necessary to begin at the first part of the test and learn its degree.

Several ways are at hand, but an easy and reasonably quick method is by means of the maddox spot light, which should be reasonably bright, the rotary prism turned to a value of from 3$^{\Delta}$ to 5$^{\Delta}$ put before one eye, and placed so as to cause vertical diplopia. If we now put a red disk before either of the eyes the consultant can at once distinguish between the spots readily enough to tell us what takes place.

Direct the consultant to look at the white light, keeping that fixed in the mind at all times. This having been impressed firmly upon their mind, we ask them if the red spot ever *vanishes.* (Do not say "does it go out" or they may get the idea that it is out and away from the other light.) If they say that it does vanish, ask them to still keep watch of the white light, and to say "gone" the instant of vanishment. On its return they are not to inform us with a long sentence but merely say "come." If the times during which the red spot is missing appears to be a second, five seconds, or more, take the length of time by the second hand on your watch. These periods of vanishment are the "minus periods." Next take note of the time during which the red light is showing (together with the white fixation light).

Make a mental note of the average duration of these "on" periods, writing them as "plus."

Should the consultant state that the white light sometimes goes out instead of the red one we must tell them not to speak of this fact but give their attention only to the vanishing of the red spot.

Having taken notes on the suspenopsia of one eye for a few minutes we proceed to reverse conditions for a test of the other eye. Again cause vertical diplopia, and change the red disk to the other eye.

Here we should save ourselves much time in explanation and the consul-

tant a degree of confusion by having the same kind of vertical diplopia for each eye. If the red spot appears the higher for one eye it should not be the lower one before the other eye, but always in the same relative position.

Things now having been placed for the second test we proceed exactly as before. Do not leave the notation to memory, but write on the Rx sheet somewhat as follows:

O. D. +10, —2, +12, —3, +12, —4, etc.

O. S. +30, —1, +21, —2, +25, —2, etc.

A great many people will show periods of one, two, three seconds, and no inconsiderable number will suspend vision for 5″, 10″, 20″ and even more seconds. It is perfectly apparent that when one eye quits work we are wholly monocular for some period. This naturally throws all the work upon one eye to perform, a condition which is very likely to be extremely troublesome.

Blame is sometimes placed upon retinal conditions, lesions in the central nervous system, sex, and various problematical conditions. Concerning these things we shall have much to say as time goes on, but right here let it be understood that any conditions like those mentioned, and a host of others, are entirely beside the mark. Brain lesions are so serious that they will give rise to things far beyond our sphere of work, and in all liklihood we shall not come in contact with them. Nor is suspenopsia a retinal degeneration or any other retinal condition. Fatigue, stress of emotion, excessive use of the eyes, illumination, and scores of factors are contributing causes.

In sending reports of cases please give all the data you can acquire. Much of it may seem trivial at the time but may serve as a pointer. Always obtain a record of the approximate times *off* and duration of the times *on* of each of the eyes for a period of about two minutes each.

The writer will endeavor to review each case in the columns of the Journal. If replies are requested the optometrist will kindly include sufficient postage.

REPORTED CASES

W. S. Farmer, Opt. D.
Oklahoma City, Oklahoma

Frame Fitting With Dental Plaster Casts

Dr. F. L. Alloway (1) gives the following technique for fitting frames to a deformed, broken, or injured nose. With the assistance of a good dentist:

1. Cover the bridge of the nose with vaseline, also the eyelids, eyebrows, etc.

2. Take a piece of ordinary dental modeling compound, heat it in hot water until the compound is soft and can be easily molded into place.

3. Shape the compound over the bridge of the nose; then press into place. Allow it to cool or blow compressed air upon it until hard.

4. Take off carefully and dip it in cold water.

5. Close the ends with dental wax to form a box.

6. Pour in plaster (same as that used to take dental impressions). Knock with sharp, light blows to get air bubbles out. Then allow it to set until hard.

7. Take off the wax, place the mold in hot water to soften the modeling compound. Remove the compound and the model is complete.

The cost is about six cents, as the compound can be used over again if something should happen to the model.

This is only a small point for the optometrist, but you may be sure that it means much to the patient, and he will greatly appreciate the trouble you take in an effort to fit a nose that in all probability, has never before been comfortably fitted.

Six Cases of Hereditary Cataract in One Family

Doctor Curtin (2), reports an Italian family where the mother and five children were affected, both the family and personal history was negative. A Wassermann test of the entire family

was negative. The father's eyes are normal, and he does not wear glasses, although he is 51 years of age. There are ten children:

Males: M. G. age 28, eyes normal.

C. G. age 18, congenital cataracts, operated on when he was 11 at the Greenpoint Hospital, Brooklyn.

T. G. age 16, cataracts removed from both eyes when he was 11 1/2, at the Greenpoint Hospital, Brooklyn.

J. G. age 14, cataract in the left eye removed by Dr. Curtin at the Bronx Eye and Ear Infirmary on Feb. 14, 1924, right eye aphakic.

J. G. age 13, cataract in left eye, removed at the Bronx Eye and Ear Infirmary, August, 1925.

S. G. age 11, eyes normal.

D. G. age 8, eyes normal.

Females: L. G. age 23, both eyes operated on for cataract by Dr. Curtin.

J. G. age 20, eyes normal.

C. G. age 3, eyes normal.

It will be noted that these cases affected consist of the mother and five children, four males and one female.

The cataracts appeared about the 11th year. While cataracts are both hereditary and acquired it seems that the congenital type are in the majority, since the purely acquired type without hereditary tendencies seems to be rare.

Glaucoma Relief Through Glasses and Medicine, Combined

Doctor Dula (3) reports the following case. Young lady, 23 years of age. Symptoms very much the same as the usual eyestrain case. Pupils rather large for a hyperope, somewhat sluggish to light reflex, and somewhat harder upon palpatation than normal. Pain in eyes and head. Splochy vision, flashes of light and halo effects around artificial lights. These constantly increasing.

Retinoscope showed +2.00 D. Sph. ⊃, +.50 Cyl. Axis, 90 O. U. Ophthalmoscope showed very slight excavation of optic disc, anterior chamber shallow. Having established the fact that he was dealing with a case of glaucoma, he proceeded to relieve the ciliary cramp with +1.00 sphere O. U., and referred the case to an M. D., suggesting that he prescribe something to accomplish pupil constriction. (Pilocarpine muriate was chosen) she was advised to wear her glasses constantly, and use the drops once daily for a week. A week later patient reported decrease of pain in head and eyes, and less splotchy vision. She was fitted with +1.75 O. U., and advised to use the drops three times daily for one week. At the end of the week patient reported almost entire absence of all symptoms, and on the fourth day thereafter a complete absence of all symptoms, pain or discomfort. Tension of eyeballs was normal. Her final Rx. was +1.75 D. Sph. ⊃ +050 D. Cyl. Axis 90 O. U., which she is now wearing with comfort and her vision is normal. Dr. Dula says that the M. D. who cooperated with him on this case, is more than favorably impressed with what the optometrist may accomplish in such cases. In this case overlaping of the fields of optometry and medicine was evident. These two broadminded men are to be complimented on the way they handled this case. Either, alone, would probably have failed. It would be wonderful, if all the healing arts could co-operate for the patient's welfare in any given case, as there is much good in all the sciences and not a little bad.

Subnormal Accommodation Due to Syphilis

Doctor Arronsfeld (4), reports: male, age 38, who reported for an examination, to determine whether or not his glasses were still suitable. Objective examination showed left pupil somewhat larger than the right. Neither one reacting to either light or accomodation. Upon questioning, the patient stated he had had syphilis several years ago, which was responsible for his eye condition. He stated that he had a Wassermann test and a complete physical examination, including his eyes every year. The slit lamp revealed no abnormality of the cornea, Iris, lens or Vitreous. The ophthalmoscope showed only a very slight blurring of the nerve head. His vision O. D. was 15/15? and O. S. 15/15? His acuity was 15/15 each eye, with the following correction: O. D. +0.25 D. Sph. ⊃ +050 D. Cyl. Axis 90. O. S. +0.50 D. Sph. ⊃ +050 D. Cyl. Axis 90. With these lenses in place he was orthophoric at distance, but at age 38 he only had 1.50 D. of accommodation; probably due to the luetic trouble. An addition of plus 2.25

sphere O. U. was prescribed, with which the finest print was seen, and with which the usual amount of physiological exophoria at the near point was present.

Somewhat different yet similar to the above was Doctor Farrell's (5) reported case. Lady, age 35, referred to him by physician for glasses, had sallow and drawn appearance, history of headaches all over the head, unable to read, history of loss of children in babyhood, one still-born. Vision 20/200 O. U. Pupil action to accommodation and light sluggish, patillar reflex missing. Teeth had all been extracted; swaying motion when standing with eyes closed. Ophthalmoscope showed hazy disc, media slightly milky, perpherial choroiditis, referred back to her physician for further examination. A Wassermann was made and found to be plus four positive syphilis. After three months' medical treatment patient was referred back for refraction, and a plus 2.00 sphere O. U. gave 20/50 vision. A continued improvement in vision is expected. Had this case been handled from a refractive standpoint, with the sole motive of selling a pair of glasses, permanent blindness would have resulted in all probability.

The writer recalls a similar case that came under our observation about 4 months ago. Young man, age 20, occupation carpenter. Vision gradually getting so poor that he could not see to drive nails. Vision 20/200 O. U. Ophthalmoscope revealed milky salt and pepper media. A Wassermann test showed plus four positive syphilis. Refraction was nil, case was referred to physician with a report of the laboratory Wassermann test for treatment. After nine weeks' treatment during which time we checked the vision from time to time; it steadily improved under medical treatment until 9 weeks after the treatment was instituted his vision was 20/30+ O. U. There was no refractive or muscular error, and the vision was not improved with the pin hole disc.

Doctor Farrell states that over forty per cent of the optic atrophy, and more than twenty-five per cent of iritis cases, are caused by syphilis. Next to errors of refraction, syphilis is the most important affection of the eye, says Doctor Shastid. This being true, it behooves us, as optometrists, to be on our guard. These cases are common, we all have them. The question is, do we recognize them?

BIBLIOGRAPHY

(1) Alloway, F. L. The Eye, Ear, Nose and Throat Monthly. Vol. 5, No. 4, page 201.
(2) Curtin, T. H. Archives of Ophthalmology. Vol. LV, No. 3, page 279.
(3) Dula, F. M. The Optometric Weekly. May 13, 1926. Page 390.
(4) Arronsfeld, G. H. The Opt. Jour. and Review. Vol. LVIII, No. 9, Aug. 26, 1926.
(5) Farrell, G. C. The Optometric Weekly. May 13, 1926. Page 391.

OPTOMETRIC NOTES

ON ANISOMETROPIA—IN 1869.

E. K. Eliason,
Duluth, Minn.

Some time ago I had the pleasure of running across an old book on the "Diseases of the Eye*," written in the year 1869.

Thinking that the readers of this Journal might be interested in a comparison of the methods used at that time with the present practise, I enclose a copy of one of the paragraphs dealing with the anomalies of refraction and accommodation.

There are passages which make us smile, but on the whole it was a surprise to me that optometric science had progressed as far, at that time, as the book indicates. In some of the other paragraphs the theories are quite similar to those accepted at the present time.

11. Differences in the Refraction of The Two Eyes

"Differences in the refraction of the two eyes are not of unfrequent occurrence, and generally consist in differences in the degree of the myopia or

hypermetropia of the two eyes; or, again, one eye may be emmetropic, the other myopic or hypermetropic; or myopia may exist in one eye, and hypermetropia in the other. Absence of the lens (aphakia) in one eye, gives rise of course to a very great difference in the state of refraction of the two eyes. In the majority of cases, the refraction of the two eyes is very nearly alike. Sometimes, however, we find considerable differences in the degree of myopia or hypermetropia. The practical question is, what kind of glasses are we to give to such patients? It might appear proper to furnish each eye with the glass suitable to its own state of refraction, but in practice we find that this does not generally answer, for the patients, as a rule, complain that such spectacles render their vision confused and indistinct, on account of the difference in the size of the two retinal images. It is best, therefore, to furnish both eyes with the glass which suits the least ametropic (hypermetropic or myopic) eye. If it is very desirable that the patient should enjoy the greatest possible acuteness of vision, we may give two different glasses, so as completely to neutralize the difference in the state of refraction, and the patient must try whether he is able to see distinctly and comfortably with them. Sometimes a little practice will enable him to do so, and then their use may be allowed. If this is not the case, we may partially neutralize the difference, and thus diminish the size of the circles of diffusion. Thus if the myopia of one eye =1/14, and that of the other 1/6, we may prescribe concave 15 for the former, and concave 9 or 10 for the latter. It has also been advised that when the sight of the two eyes (which differ considerably in the degree of their myopia) is equally good, the glass which lies midway between the two degrees of myopia should be given for both. If, for instance, the one eye requires concave 4 and the other concave 8, it would be advisable to prescribe concave 6 for both eyes. But such glasses prove unsuitable, as they suit neither eye, being too strong for the one, and too weak for the other.

"If there is a difference in the refraction of the two eyes—the one being myopic, the other hypermetropic—it is also often difficult to suit them with glasses which shall neutralize each anomaly. This is owing to the difference in the size of the retinal images which will be produced, for the convex lens will enlarge, the concave lens diminish, the size of the retinal image, and this may prove a source of considerable confusion. In all cases of difference in the refraction of the two eyes, the patients should try the glasses for some little time, so as, if possible, to become accustomed to them, before we decide definitely as to the kind of glasses which we shall prescribe."

*From "A Treatise on the Diseases of the Eye," by J. Solberg Wells. Published A. D. 1869.

MAKING A RED-FREE OPHTHALMOSCOPE INEXPENSIVELY

Harlan P. Blaine, Opt. D.
Norfolk, Nebraska.

The writer has a Hare-Genothalmic ophthalmoscope. An instrument without the red-free lens attachment. Wanting this feature, yet being unwilling to discard this otherwise excellent instrument, I decided to have this feature added to the ophthalmoscope if possible. Finding this impossible through the regular channels, I decided that I would add it myself.

I first purchased through my optical supply house a red-free lens mounted in a metal rim, with a wire attached. This lens and rim is the same that is found in the newer Genothalmic Ophthalmoscopes, the one equipped with the red-free lens. The part purchased is shown in figure 1.

FIG. 1

I next shortened the wire, and bent it as shown in figure 2.

I now removed the three screws holding the front cover of the ophthalmoscope, and filed a little slit in the top, just enough to allow the wire to slide through, and hold it in position, but not long enough to interfere with the mechanism on the inside of the opthalmoscope.

I left the wire just long enough, so that when the wire is pushed clear in,

FIG. 2

that the red-free lens can be turned to be exactly over the peep hole, or can be turned out of the way, as shown in figure 3.

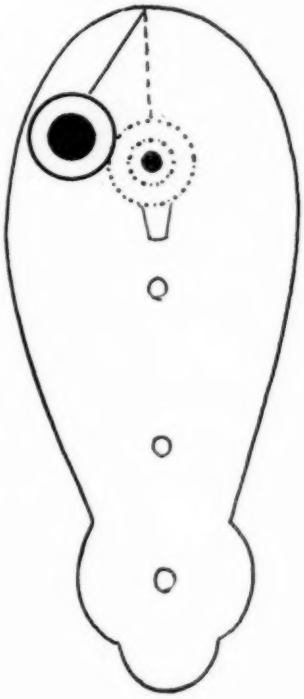


FIG. 3

I find that this works fairly well, and can be done at a very small expense.

A TEST FOR THE DOMINANT EYE AND A PHORIA CHECK TEST

J. Fred Andreae, Opt. D.
Baltimore, Md.

Finding the patient's dominant eye is not always as easy as it might seem and in order to do this accurately the writer envolved the following technique:

A piece of card is selected with a round hole cut in the center. The card should be 5 inches by 7 inches, and the hole should be one inch in diameter. Through this hole and extending two inches on each side a horizontal black strip is pasted.

The patient now holds this card with both hands, arms fully extended on plane with eyes, in this position looks through the hole, both eyes open and wearing correction, at single letter or muscle light in distance chart, operator then covers one eye, in event patient still sees letter or light the covered eye is the non-dominant eye, in event he does not see it then the covered eye is the dominant eye. This concludes the test as far as the dominant eye is concerned but not the possibilities for a test of the phorias.

Looking through this hole concentrate your vision on the letter while still seeing hole, you will shortly see two holes, if these two holes are on the straight line mentioned before it is safe to assume there is no hyperphoria, if one hole is higher than the other then there is an imbalance.

As for esophoria and exophoria the distance between the holes on the horizontal line must measure the amount of deviation.

My problem is to work out the following points:

1. Apparatus to take care of position instead of patient's arms.
2. This apparatus must rotate to measure on a scale amount of hyperphoria.
3. A scale must be evolved to care for distance between lights to measure esophoria or exophoria.

The writer would be glad to hear from any optometrist who could help him solve the mechanical portion of this problem.

ABSTRACT DEPARTMENT

Optometric and ophthalmic Journal articles and reprints to be abstracted should be sent to Dr. G. L. DuPlessis, 209 Yeates Building, Minneapolis, Minnesota. Only papers of interest to optometrists will be reviewed in this department.

A. Korff-Peterson. The Influence of Colored Light on the Recognition of Printed Letters. The Optical Journal, pp. 39-40., July 22, 1926.

A series of visual acuity tests were made by Korff-Peterson to determine the color of light which permits the sharpest perception of detail. White, yellow, red, blue and yellow-green lights were used during the experiment and the acuity was found to be best with the yellow-green and poorest with the blue. T. O. B.

Studies in Ocular Fatigue. By Conrad Berens, M. D., L. H. Hardy, M. D., and F. H. Pierce, A. B., B. Sc. Contribution to Ophthalmic Science, pp. 102. 1926.

Doctors Berens, Hardy and Pierce carried on some research on fatigue of convergence and fatigue of accommodation. A special instrument, the Combined Ergograph, was devised for that purpose. The instrument was constructed in the department of physiology, Columbia university under the supervision of H. F. Pierce. It consists of a metal frame along the center of the top of which running lengthwise is a flat wooden bar upon which slides an adjustable test object holder. In the front of the test object holder and attached to the end of the frame, is an arrangement for holding a long, stiff wooden tongue depressor. A kymograph and drum are enclosed in the frame, so placed that the drum may not be seen by the patient, and on the side of the frame easily accessible to the patient's right hand is a slider, carrying a pen, which writes on the drum. The slider is attached by a cord to the test object holder so that as the patient moves the slider, he simultaneously draws the test object towards him and writes a record on the drum.

The patient is seated facing the test object and is asked to bite the tongue depressor firmly. The test object for convergence is made up of a card having a black dot in the center two millimeters in diameter. The card is then brought up to the eye until doubling occurs. This is repeated ten times. The average of these ten readings is taken as the near point of convergence. The test object is then carried back 30 millimeters and the patient is allowed this amount of relaxation after each effort. The patient is then asked to operate the machine and to make repeated efforts at convergence and in doing so makes his own fatigue record. To study accommodation, it is necessary only to substitute a card with small test letter or numbers in place of the dot.

The instrument was mostly used to determine the muscular strength of pilots in the air service. Tests were made under oxygen tensions equivalent to sea level and those of higher altitudes and a study was made of the ability to overcome prisms base in and base out. At 15,000 feet it was found that the diverging power diminished 21 per cent and converging power, 10 per cent. At 20,000 feet, diverging power was reduced 29 per cent and converging, 16 per cent. Men with over 1$^{\Delta}$ of hyperphoria, particularly when combined with exophoria, showed a rapid reduction in strength often resulting in diplopia.

Ergograph records are reproduced by the writers, showing one case which did not develop during a sitting lasting 20 minutes, another record shows fatigue developed in 7 minutes to a point of actual diplopia, and a third record shows a very rapid onset of fatigue of convergence with marked convergence, insufficiency and defective steropsis.

The late model ergograph has been used in some cases in office work and proved to be a valuable aid in diagnosing and treatment of muscular abnormalities. Studies are now being carried on on certain types of cases asthenopia associated with convergence difficulties. This instrument can be used to study various ocular and functional disturbances of individual patients from a clinical standpoint and will prove invaluable to the modern refractionist. J. I. K.

THE AMERICAN JOURNAL OF OPTOMETRY

Vol. 3 NOVEMBER 1926 No. 11

CAREL C. KOCH, EDITOR
209 Yeates Building, Minneapolis, Minn.

J. I. Kurtz, Associate Editor
209 Yeates Building, Minneapolis, Minn.

E. O. Fjelstad, Associate Editor
22 E. 38th St., New York, N. Y.

Published monthly as the organ of the Iowa, Minnesota, Nebraska, North Dakota, Oklahoma and Vermont Optometric Associations

Original papers, scientific communications and correspondence should be addressed to the Editor. Books for review should be sent to Dr. E. O. Fjelstad. Clinical Reports and Society Proceedings should be sent to Dr. J. I. Kurtz. Practical Notes and Current Refractive Topics should be addressed to Dr. R. M. Peckham, Waterbury, Conn.

Annual Subscription Two Dollars in Advance. Single Copies 20c.

Copy of advertisements must be sent to Dr. Jack I. Kurtz by the tenth of the month preceding their appearance. Subscriptions, applications for single copies, communications with reference to advertising or other business, should be addressed to the Business Manager,

DR. JACK I. KURTZ, Room 209 Yeates Building, Minneapolis, Minnesota.

The Journal has no objection to the reprinting by other magazines of any of its articles, provided such reprints are properly credited to the American Journal of Optometry.

THE EYESIGHT CONSERVATION COUNCIL

The need of making the public eye conscious is being realized now more than ever before. There are several avenues through which the public can be reached. The most effective and least expensive way of reaching the public with the massage of eyesight conservation is by bringing that massage in person directly to the group you wish to reach. This can best be done in the form of lectures or talks, on the eye and how to care for it, before different organizations.

The Eyesight Conservation Council of America has rendered a distinct service to the refractionists as well as to the public by publishing Bulletin number 5, which contains a wealth of lecture material suitable to different groups and various occasions. Also a large number of slides to illustrate these lectures have been prepared. This bulletin can be secured from the Eyesight Conservation Council of America, Times Building, New York City, for the nominal cost of 40 cents, which barely covers the cost of printing.

The material contained in the bulletin covers fully and in a very interesting manner such subjects as: physiology of the eye, eyesight statistics and charts, eyesight and eye protection stories and cartoons. Eye accident statistics, lighting statistics and charts and many other subjects of interest. The slides were artistically gotten up in plain and colors to enable the lecturer to illustrate and visualize these different subjects.

The winter months present wonderful opportunities to carry the massage of eyesight conservation directly to the public. Alert optometrists in each community should take advantage of this most effective and least expensive form of publicity.

Optometric organizations in larger cities can and should organize speakers clubs, train some of their members in the art of public speaking and secure a set of slides and belopticon to be used by the speakers.

There are numerous organizations such as the parent and teachers associations, improvement associations, civic clubs, labor organizations and at shop meetings during the noon hour, all of which would welcome the opportunity to listen to an instructive and educational talk on the eye and its care.

The spread of the gospel of eyesight conservation is a duty which optometry owes to itself and the public. The Eyesight Conservation Council by preparing and publishing "bulletin number 5" made it possible for the alert and conscientious refractionist to grasp this opportunity and to fulfill his obligation.

J. I. K.

OPTOMETRY'S PROBLEMS MUST BE SOLVED NOW

There are various problems confronting the profession of optometry which must be solved now. This generation will have to cope with some of them, and remove some of the factors which are interfering with the natural developement of the profession of optometry or else the profession of optometry itself will gradually be destroyed.

The problems to be sure vary in nature and degree of importance, each one calling for a special kind of a solution. The one agitating the minds of optometry's leaders in many states is the "mail order" and the sale of ready-made glasses over the counter. It is to be regretted that there has not been until now any organized effort in a national way to cope with this situation. Just recently the International Association of Boards of Examiners in Optometry has taken a hold on this matter and its ever alert secretary, Dr. J. Fred Andreae, sent out a bulletin to all the secretaries of the different state optometric associations and state boards asking for suggestions as to how to remedy this evil. Many interesting suggestions have been received. (The bulletin and replies are printed in this Journal on page 350.) Some recommend legislation, others claim that the source of supply should be investigated and should be stopped at the source. The suggestion is also made by some that the Postmaster General should be convinced that the whole scheme of selling $15.00 glasses for $3.95 is a fraud and that the mails should be closed not only to the mail order houses but to the publications carrying their advertising.

The proper solution of this problem will have a tremendous effect on the future developement of the profession. Any one having any suggestions to offer regarding this matter is asked to write to Dr. J. Fred Andreae, Lexington Building, Baltimore, Maryland.

J. I. K.

OPTOMETRIC EDUCATION

It has been pointed out time and again that optometry's progress will be in direct proportion to its educational advancement. This being true, a movement has been on foot for some time to establish optometry chairs in some of the universities throughout the country. As a result optometry courses are now offered at Columbia University, Ohio State University, California and Illinois Universities and the University of Rochester.

It took a great deal of time and hard work on the part of those who sponsored the move of establishing optometry chairs at these universities. This is just a beginning, the most difficult part we find out now is *not to put an optometry chair in a university, but to keep it there after it has once been established. A university will not continue to teach any kind of a course if there are not enough students enrolling for that course.*

The success of the optometry courses given at the several universities depends entirely upon the number of students that will enroll in these schools. The enrollment until now has been entirely too small in most of the schools and something must be done if we are to keep what we have gained. There are enough prospective students amongst the optometrists and their friends to keep each class A optometry school filled to capacity. All we need is to spread the information regarding these optometric schools amongst this large class of prospective students. It is the duty of every optometrist to inform himself about the different optometric schools, their locations and requirements so that he may be able to pass that information along to those who may need it.

For the benefit of all who are interested in this information, this Journal is publishing a list of all class A and class B optometry schools in this country and will continue to do so from time to time so that our readers may have this information ready when needed. The list of schools will be found on page 353.

It is hoped that this may serve to stimulate the interest of some optometrists to bring to the attention of the high school students and others the opportunities optometry offers and also to put them in touch with some reputable optometry school. The Optometry Schools Need and Deserve Our Support. Let Us Give Them the Support They Deserve.

J. I. K.

REPORTS AND ANNOUNCEMENTS OF SOCIETIES

STATE EDITORS

E. B. ALEXANDER, Oklahoma
A. S. ANDERSON, North Dakota
J. F. ANDREAE, Maryland
L. P. FOLSOM, Vermont
D. A. KINNEY, Iowa
J. A. LARGE, Minnesota
C. A. PERRIGO, Nebraska
M. B. MEYER, Delaware

Reports of Society Proceedings in Delaware should be sent to Dr. M. Burton Meyer, 101 West Eighth St., Wilmington; in Iowa to Dr. D. A. Kinney, Charles City; in Maryland to Dr. J. F. Andreae, Baltimore; in Minnesota to Dr. J. A. Large, Winona; in Nebraska to Dr. C. A. Perrigo, Freemont; in North Dakota to Dr. A. S. Anderson, Williston; in Oklahoma to Dr. E. B. Alexander, Duncan, and in Vermont to Dr. L. P. Folsom, So. Royalton.

AMERICAN OPTOMETRIC ASSOCIATION

The convention dates for the 1927 Annual Congress to be held at Washington, D. C., have been designated by the General Arrangements Committee to be June 20th to June 24th, inclusive. Convention headquarters will be the Willard Hotel. The dates and place have also been approved by the General Committee.

The Committee on Constitution have all received official notice of their election and are active.

The Department of Education is now operating in full swing as well as is the Department of Public Information.

Dr. Hoare and his committee are active in Truth-in-Print work and solicit the earnest co-operation of all optometrists throughout the United States in submitting articles quoting "untruths."

It is hoped that very shortly a copy of the "acts" of the House of Delegates at San Francisco will be submitted to each individual member in good standing in the A. O. A. The program of economy inaugurated by the Board of Trustees has delayed this somewhat, but the Trustees are of the opinion that the expenditure is justified and the amount of material to be included in the volume is at present under discussion.

This office has been busy with routine work and has during the past six months delivered approximately four thousand neatly engrossed membership certificates and supplied an abundance of material on organization for a number of state associations and innumerable local societies.

DR. E. KIEKENAPP,
Secretary.

SOUTHERN MINNESOTA ASSOCIATION

A meeting of the Southern Minnesota Association of Optometrists was held in Faribault Tuesday evening, October 19th, and an exceptionally large gathering of optometrists was present.

A 6:30 luncheon was served at the Brunswick Hotel, which was complimentary from the N. P. Benson Optical Co. This was very much appreciated by those present and a vote of thanks was extended to the N. P. Benson Optical Co., through their representative, Mr. Leslie Myers, who was present at the meeting, for their kindness in this capacity.

A business session followed the luncheon and numerous matters of business were taken up, including election of officers. Dr. A. J. Large of Winona was elected President of the society, Dr. Roy S. Prudden was elected Vice-president, and Dr. Walter H. Nordin was re-elected Secretary-Treasurer.

Dr. A. J. Large of Winona gave a talk on "The Avoidance of Price Arguments." Mr. Leslie Myers talked on the relationship between the jobber and optometrist. Dr. Kiekenapp and Dr. Nordin gave a practical demonstration with lecture of a routine examination in the Kiekenapp offices.

The following new members were welcomed into the society: Dr. Roy S. Prudden of Albert Lea, Minn.; Dr. H. F. Eggleston of Faribault; Dr. D. J. Chatham of Faribault; Dr. D. M. Quarrels of Winona; Dr. A. J. Large of Winona; Dr. Walter Leu of Winona.

The next meeting will be held on the same date as the annual state meeting. Southern Minnesota optometrists will meet for a noon luncheon.

MINNESOTA ASSOCIATION

The Executive Committee of the Minnesota Association met on the 19th of October. Dr. A. J. Fandel of St. Paul has been appointed chairman of the Legislative Committee. Dr. Fandel is working out his plans now and will personally direct the legislative campaign. The other members of the committee will soon be appointed.

Inquiries have been received recently as to where the film "Through Life's Window" can be obtained. Your Association has one of these films. Members in good standing can secure this film at a nominal rental fee from your secretary's office.

J. I. KURTZ,
Secretary.

NORTH DAKOTA OPTOMETRIC ASSOCIATION

Are You a Real "Optometrist"?

At the present time a series of advertisements is appearing in the Chicago newspapers informing the public regarding optometry and selling eye examinations for optometrists to every reader. Nearer at hand the optometrists of Fargo are following the same plan of collective advertising. Every optometrist in the state will receive benefit from this publicity.

At the next annual meeting of your association to be held in Minot in August, 1927, an extensive plan for advertising optometry in North Dakota will be presented for your approval.

All over the country the conviction is growing that group advertising by optom-

way for publicity on a countrywide scale to be inaugurated by the national association a few years hence.

In order for you to receive any pecuniary benefit from the advertising that is now under way, or from any publicity project that is undertaken in the future, it is absolutely essential that you disregard all aliases and call yourself an "optometrist," and nothing more or less. The ads are telling the public to seek an "optometrist" for their eye troubles, not an "optical specialist," "eyesight specialist," or "optician."

Look over your window signs, advertising circulars, and stationery carefully. Many of us are careless in what may seem a trivial matter. If you are not a 100% "optometrist," now is the time to become one.

A. S. ANDERSON, Opt. D.,
Secretary.

SPECIAL REPORTS

SUGGESTIONS BY SOME OF THE LEADING MEN IN THE PROFESSION AS TO HOW TO COMBAT THE GLAZZED GOODS AND MAIL ORDER EVILS

By Dr. J. Fred Andreae
Baltimore, Md.

On October 6th the following bulletin had been sent out to the secretaries of the different optometric associations and state boards of examiners asking for suggestions as to how best to combat the mail order evil:

October 6, 1926.

Dear Brother Secretary:—

What action can we take and what suggestions along this line have you and your Honorable Body to offer to combat the selling of spectacles by mail and over the counter?

The True-Fit Optical Company of Chicago are appointing agents or salesmen all over the country and undoubtedly are cleaning up. It seems to me that this practice constitutes a real menace to the public as it endangers their most precious possession and this being a fact, the Postmaster General of the United States should certainly be convinced that the mail should be closed to this concern as well as all others like it.

President Eimer writes on the subject as follows:

"The question of 'over the counter' glasses and glasses sold by mail, etc., requires serious consideration because no matter what we think about them not hurting our practice, they do just the same and it is surprising to see the number of apparently intelligent people who will buy these glasses and get along with them because they claim they can see with them perfectly satisfactory. It is my opinion that the American Optometric Association should investigate the source of supply of this product and when ascertained then we should inform optometrists throughout the country of the unfair attitude of these companies in selling products to ten-cent and dollar stores, etc." This is my personal viewpoint and I believe we must go to the manufacturers rather than to any other source."

What do you think about this most serious matter?

Please let me hear from you at your earliest convenience.

Fraternally yours,
J. Fred Andreae,
Secretary.

From the replies which reached this office to date it is evident that this problem is agitating the minds of officers of the various state associations and some action of one type or another is being contemplated in several states. The following are abstracts from some of the replies to my bulletin:

Dr. Clarence H. Kaufman, Director of Dept. of Truth in Print, Ohio State Optometric Association:

It appears to me that the best possible method of getting rid of the glazed goods evil is to have laws passed in the various states for the protection of the public such as have been already passed in one state, making it illegal to sell any glass, designed to correct an error of refraction, except they be sold on the prescription of an optometrist or an oculist.

Dr. J. I. Kurtz, Secretary Minn. Association of Optometrists:

I don't think it would hurt to try and see what can be done through the Postal Department. I have been thinking along somewhat the same lines as Dr. Eimer, that we should make it our business to find out who is pushing the sale of this junk throughout the country and we should take the matter up directly with them and see whether we can not come to some kind of an agreement so that the sale of this "ready-made stuff" be limited and if we can not get any satisfactory arrangements in a peaceful manner, we should absolutely fight this matter out. No manufacturer or jobber in this country should expect to get the good prescription work from legitimate refractionist optometrists and ophthalmologists and at the same time do business with the illegitimate groups. They should absolutely have to take their choice between one or the other, but they should not have the business of both. I am certain that we can get the co-operation of the ophthalmologists in this case as they are just as interested in this proposition as we are.

I also think that some legislation should be fostered to limit the sale of glazed goods and replacement of ophthalmic lenses to those only qualified to prescribe. We intend to put up an amendment to our law embodying these points at our next legislative session. If we can get amendments of this nature adopted in most states I think it will help the situation to some extent.

Dr. Laurence P. Folsom, Board of Examiners in Optometry, Vermont:

Peddlar and mail order specs should be

put out of business, all will agree, and we will change our Vermont law so to do it.

Dr. Frank D. Jackson, Optometrist, Norfolk, Va.:

The mail order people come close to fraud when they claim their glasses are "$15 value," etc. On some such basis they might be stopped.

Dr. R. O. Warren, Secretary Kentucky Association of Optometrists:

It seems to me that the A. O. A. has gone to sleep on this special point of the work. This is one thing that is of interest to every state association affiliated with the A. O. A., and I am of the same opinion as expressed in the last paragraph of your letter—that we go to the source of supply to effect a remedy for this evil.

Dr. C. D. Waugh, President Wisconsin Association of Optometrists:

In reply to your circular letter of the 6th to Dr. Harte, such members of this association as we have been able to get in touch with seem to think that the best way to curb the mail order spex evil is through the Post Office Department.

Dr. Henry M. G. Lindman, Secretary Milwaukee Optometric Association:

Upon reading your communication of October 6th to the membership at our last meeting, the following was moved, seconded and passed: That Dr. Andreae be asked in the name of optometry to interview the Postmaster General at Washington, D. C., to discourage and cease the mail service of companies who are engaged in the business of selling spectacles by mail.

Dr. A. A. Schamber, President Mississippi State Board of Examiners in Optometry:

I fully agree with President Eimer in his solution of this evil. If the manufacturing interests claim they are forced to put these on the market as seconds, then let them raise the price of first quality merchandise to where they can afford to throw the seconds in the junk pile.

Dr. F. S. Gray, Rochester, N. H.:

I think our only method of procedure would be through the State Legislatures just the same as we took that course of action when our laws were passed to compel education and examination. Some may argue that it would be in restriction of freedom, but it would seem that that has been overcome in years past and I think it could be overcome in the future.

Dr. John D. Perry, Secretary North Carolina State Optometric Society:

I think the American Optometric Association should investigate and expose every manufacturer selling to the 5 and 10 cent stores.

North Carolina Association declared war on spectacle fakers and "over the counter" glasses a year or two ago and are still fighting. We were successful in getting all of our state papers to cancel their contracts with all spectacle companies, but the magazines published outside the state have not, up to the present, paid any attention to our protest, and thousands are mailed into this section every month.

I do not believe this problem can be solved by state laws. The only remedy, as I see it, is for the A. O. A. to appoint a committee to call on (not write) the Postmaster General, who is capable of convincing him that cheap spectacles and glazed goods are a menace to the public, and that the mails should be closed to all magazines and circulars carrying such fraudulent advertisements. If the National Association cannot do anything, then our case is hopeless.

Dr. C. H. Carnes, Secretary New Mexico State Board of Examiners, Albuquerque, New Mexico:

Dr. Eimer's suggestions are certainly to the point, as well as boycotting the source of their supply. It occurs to me, however, that local optometrists everywhere have means available each in his own locality of doing good work in combating this evil. If they would each write letters to their local papers, preferably before any such advertising appears at all, setting forth good and sound reasons why the public interest is best served by the rejection of such copy, it would influence the publication in favor of such rejection.

Dr. Wm. B. Irvine, Secretary Illinois State Society of Optometrists:

I am heartily in favor of President Eimer's plan of trying to ascertain the very root of the evil. The Attorney General of this state writes as his opinion: "Selling glasses by mail is a violation of the Illinois optometry law."

Dr. J. C. Bloom, Secretary, Colorado State Board of Optometric Examiners:

Replying to your circular letter, would say that the only way to do away with the fit yourself stores is for each state to add an amendment to the law making it illegal for anyone not registered to sell focus ground glasses.

Colorado is having prepared such an amendment, and will use every effort to have it passed, in fact we are now working with the several candidates getting them to declare themselves as to their position on such an addition to the present law.

It would be well for both the A. O. A. and the Board of Examiners to get busy with the Postmaster General, and show him the detriment this works to the eyes of the general public and the menace it is, through this get his sympathy and assistance, there is the place for real results.

We in Colorado have fought this matter for some time and will continue to until this evil is wiped out.

Dr. Fred Gonder, Secretary Nebraska Association of Optometrists:

I believe as Dr. Eimer, that our shortest and most effective route is to check these methods at the source of supply.

Dr. C. H. Babbitt, Secretary New Hampshire State Board of Examiners in Optometry:

Notice could be given in advance after having the facts regarding their methods of testing, that any person not registered in the regular way would be prosecuted if an attempt were made to sell spectacles by that method in such a state as it is in violation of the optometry law and besides the claim to be able to fit eyes accurately by this method is fraudulent.

It is very evident to anyone who knows the least thing about the eye and optics that any claim to fit glasses by any such methods is sheer fraud and your board, backed up by the request of the different state boards of the whole country and the national association and the various state associations could make a request to the Postmaster General that he close the mails to the firm doing this business on the basis of fraud.

NOTICE

The entire profession has now received our announcement of the coming course in Visual Survey and Service. Applications are coming in from all over the country. The first mail brought in such names as Dr. Watts, Ex-President of the New York State Association, and Dr. Todd, Ex-President of the National Association. We are more than pleased with these early returns.

In order, however, that the greatest number may be enrolled in time for the regular distribution of the lessons, we are again calling the course to the attention of those from whom we have not yet heard.

You will be interested to know that our Service Department will be operated upon certain definite principles of which the following will concern you most.

1. Our Service Department will sell the advantages and necessity of Visual Survey and Service to Industry and contract for this Service on an annual basis.

2. The Survey will comprise an objective and subjective test according to our standards, a report to the employer of findings, and further complete examination of the employee followed by such service as will remedy each case.

3. This Service to Industry will be on an annual basis with the cost of this Service to Industry depending upon the number of employees.

4. This Service is to be rendered by local practitioners who have qualified under our course and practice according to ethical and professional standards. The work to be apportioned by us among this class as our work and the enlistment of industries develop.

5. Practitioners to be compensated monthly by us on a per capita basis. Your remuneration will be professionally adequate.

6. All professional work to be kept wholly separate and distinct from the merchandising service.

If you have not already enrolled, fill out the application which you have already received and return the same with your check and notes.

Eyesight Survey and Service Corporation

1014-1019 Union Trust Building

Rochester, N. Y.